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April 26, 2004

VIA HAND DELIVERY

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APR 26 2004

PUBLIC SERVICE
COMMISSION

Thomas M. Dorman, Executive Director
Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, KY 40602-0615

Re: Case No. 2003-00266, Investigation into the Membership of
Louisville Gas and Electric Company and Kentucky Utilities
Company in the Midwest Independent Transmission System
Operator, Inc.

Dear Mr. Dorman:

Enclosed please find the original of the Initial Post-Hearing Brief to be filed in the above-referenced proceeding on behalf of an intervenor, Midwest Independent Transmission System Operator, Inc.

Because this filing is voluminous and we are using the after-hours filing box, we will bring additional copies of these materials to the Commission tomorrow morning. Thank you for your attention to this matter.

Sincerely,



Katherine K. Yunker

Enclosure

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

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APR 26 2004

PUBLIC SERVICE
COMMISSION

In the Matter of:

Investigation into the Membership of
Louisville Gas and Electric Company
and Kentucky Utilities Company in
the Midwest Independent
Transmission System Operator, Inc.

Case No. 2003-00266

**Initial Post-Hearing Brief of the
Midwest Independent Transmission System Operator, Inc.**

Midwest Independent Transmission System Operator, Inc. ("Midwest ISO"), an intervenor, hereby presents its initial post-hearing brief in the above-referenced case.

Summary of the Proceedings

On July 17, 2003, the Public Service Commission ("the Commission") initiated this case with an order setting four issues for investigation, making Louisville Gas and Electric Company ("LG&E") and Kentucky Utilities Company ("KU") parties to the investigation, and directing them to provide testimony. 7/17/03 Order at 3-4. Parties granted full intervention are the Attorney General of the Commonwealth of Kentucky ("AG"), Kentucky Industrial Utility Customers, Inc. ("KIUC"), and the Midwest ISO. The Commission established a procedural schedule that provided for written discovery, an informal conference, and a formal hearing held on February 25-27 and April 8, 2004. Concurrent initial post-hearing briefs are to be served and filed on April 26, 2004; reply briefs, on May 19, 2004.

Issues Presented

In its initiating Order, the Commission set for investigation four issues related to the Midwest ISO membership of LG&E and KU:

costs and benefits of membership in MISO, both currently and over the next 5 to 10 years; the need for prior approval under KRS 278.020(4) for the transfer of control of the facilities comprising LG&E's and KU's transmission utilities to MISO; the appropriateness of, and jurisdictional basis for, MISO to provide services traditionally within the supervision and control of the Commission, including but not limited to, resource adequacy and DSM; and the feasibility of joining a southern RTO.

7/17/03 Order, ordering ¶ 3. The body of the Order provided further definition of these issues. For example, as to the benefit-cost issue, the Commission described the issue as "the extent to which LG&E and KU, as providers of bundled retail electricity, utilize and receive benefits from the services provided by MISO, and whether those benefits are commensurate with the costs," and noted that a similar inquiry arose in the proceeding based on the application of Kentucky Power Company d/b/a American Electric Power ("Kentucky Power") to join PJM Interconnection, L.L.C. ("PJM"), Case No. 2002-00475. 7/17/03 Order at 3.

LG&E and KU (collectively referred to herein as "LGE") responded to the Commission by stating "the Companies now believe that, if the KPSC is willing to support fully their efforts, ... the Companies should pursue an exit from MISO, with the aim of operating their transmission system on a stand-alone basis."¹ This belief is based on LGE's position that the benefits of exiting could outweigh the cost borne by LG&E

¹ Direct Testimony of Paul W. Thompson, filed 9/22/03 ("PWT Direct"), 14:13-15. Reference herein to prefiled testimony will be by the witness's initials, an indication whether the testimony was direct or rebuttal; pinpoint cites are to page and line, *e.g.*, "14:13-15" is a reference to page 14, lines 13 through 15.

and KU.² LGE has specified two components of the “full support” it seeks from the Commission.³

First, the Companies must be allowed to recover from customers the exit fee imposed on withdrawing members, as set forth in the MISO Agreement, as well as all costs incurred in connection with LG&E’s and KU’s ongoing membership obligations prior to the exit. Second, the companies must be allowed a reasonable opportunity to obtain the requisite pre-approvals from FERC to permit LG&E and KU to withdraw from MISO under conditions acceptable to the Companies.

If the Commission accepts LGE’s “exit proposal,” LGE “would request the KPSC to permit the Companies to establish in this proceeding a regulatory asset for the MISO exit fee.”⁴ In the next base rate case, LGE would seek inclusion in base rates of all Midwest ISO-related expenses from the test period (with pro forma adjustments) pending receipt of final FERC approval to withdraw from membership; once that approval was received, LGE “would take the requisite ratemaking steps ... to remove the MISO-related expenses for base rates and begin amortization and base rate recovery of the regulatory asset”⁵

The precision of LGE’s description of its ratemaking plans contrasts with its vagueness about what FERC conditions would (or would not) be acceptable. LGE has declined to identify either acceptable or unacceptable conditions.⁶ The only example given of an unacceptable condition is that LGE be required to join another RTO

² PWT Direct 14:15-22; LGE Response to MISO Request 25. *See also* 1 T.E. 148:15-18, 149:6-150:4. Reference herein to any of the four volumes of the hearing transcript will be to the volume number followed by “T.E.” and a pinpoint cite.

³ PWT Direct 15:12-20.

⁴ Direct Testimony of Michael S. Beer, filed 9/22/03 (“MSB Direct”), 11:2-3.

⁵ MSB Direct 11:4-10. The “next” base rate cases for LG&E and KU — Cases No. 2003-00433 and 2003-00434, respectively — were filed December 29, 2003.

⁶ LGE Response to MISO Request 1 (“[I]t is not possible for the Companies to identify what specific conditions would or might be acceptable. The Companies will evaluate any such conditions based on their economic impact on the Companies and their customers at the time.”).

(because the Midwest ISO is the least-cost RTO option).⁷ The exact contours of what LGE is requesting thus are not clear; however, it is evident that LGE is asking for an order directing that it withdraw from Midwest ISO membership.⁸ As a utility requesting an order from the Commission, LGE is in the position of an applicant and thus bears the burden of proof. *See Energy Regulatory Comm'n v. Kentucky Power Co., Ky. App.*, 605 S.W.2d 46, 50 (1980).

Discussion

LG&E and KU were among the founding members of the Midwest ISO, voluntarily joining because of the perceived advantages of membership in such an organization. As acknowledged by Mr. Thompson, LG&E at the time envisioned the transition of an electric service industry into a competitive enterprise in which the low-cost generation resources of Kentucky utilities would enjoy a competitive advantage. That advantage could be enhanced by the existence of an organization that would eliminate rate pancaking, provide transmission access and develop larger liquid markets. The Midwest ISO was the vehicle through which LG&E and KU pursued their perceived corporate advantages at the time. In consequence of this strategy, LG&E and KU entered into contractual undertakings to remain a member of the Midwest ISO for a minimum duration and to pay their share of development costs if they thereafter left the organization.

⁷ PWT Direct 13:12-13, 16:8-14.

⁸ LGE clarified what it was that it was requesting from the Commission as follows: If the Commission makes certain determinations, “then LG&E and KU request that the Commission direct the Companies to pursue such withdrawal [from MISO].” LGE Response to PSC Staff Request 8 p.1. *See also* PWT Direct 16:2-3 (“the KPSC should assist the Companies in extracting themselves”); MSB Direct 11:1-2 (referring to “the Companies’ exit proposal”); LGE Responses to PSC Staff Request No. 11 p.2 (“if withdrawal is prompted by a KPSC directive”) and MISO Supp. Request 4 Attchmt. p.27 (anticipating invocation of Transmission Owners Agreement, Article VII, Section A.3 “to the extent the KPSC directs the Companies to withdraw from MISO”).

The record in this proceeding demonstrates that the advantages of membership remain; Kentucky ratepayers and LGE receive value from participation in the Midwest ISO. As more fully explained in the following sections, an analysis of the issues set out by the Commission in its initiating order leads to the following findings and conclusions:

- LG&E and KU voluntarily agreed to participate in the Midwest ISO.
- LGE has affirmatively asserted that participation in the Midwest ISO satisfied its obligations under Order No. 2000.
- The existence of the Midwest ISO provided a cost-effective market power mitigation measure that facilitated the merger of LG&E and KU and thus the benefits that stemmed from the merger.
- LGE's withdrawal from the Midwest ISO is not in the public interest.
- The Midwest ISO has contributed to liquid, transparent markets that have permitted LGE to engage off-system transactions to its own profit and (through the Earnings Sharing Mechanism) to ratepayers' benefit.
- LGE derives substantial revenue from transmission revenue received and distributed by the Midwest ISO.
- The creation of markets by the Midwest ISO will facilitate voluntary trading opportunities for LGE, which should improve the value of its assets.
- The employment by the Midwest ISO of market-based congestion management tools will lower the actual cost of congestion and reveal the cost of managing congestion in a manner superior to that available to LGE as a stand-alone entity.
- The regional scope of the Midwest ISO improves reliability in a manner that cannot be replicated by LGE as a stand-alone entity, and that improved reliability benefits LGE customers in the form of reduced probability of load loss.

- The benefits received by its ratepayers from LGE's Midwest ISO membership have exceeded any related costs borne by them.
- There are benefits of Midwest ISO membership, both currently and over the next 5-10 years, and those benefits are commensurate with the costs.
- The regional planning function performed by the Midwest ISO permits LGE to realize savings resulting from elimination of duplicative functions.
- Remaining in the Midwest ISO is the superior RTO membership option.

I. The Change of Control Proposed by LGE Does Not Meet the KRS 278.218 Standard.

A. LGE has transferred limited functional control over its transmission assets to the Midwest ISO.

The initiating Order notes that LG&E and KU worked with other utilities to organize the Midwest ISO, and became charter members of the organization before 1999; it also states that LGE transferred actual control of transmission facilities to the Midwest ISO in 2002. 7/17/03 Order at 1-2. While seeking approval of their merger, LG&E and KU committed to participate in the Midwest ISO and filed an application with FERC in Docket No. ER98-24-000, requesting approval to transfer functional control over their transmission systems to the Midwest ISO.⁹ On September 16, 1998, FERC granted approval of the transmission owners' agreement.¹⁰ The Midwest ISO began providing transmission services under its tariff on February 1, 2002.¹¹ Thus, whether the control transfer is deemed to have taken place in September 16, 1998, February 2002, or any intermediate date, that transfer occurred prior to the April 2002 effective date of KRS 278.218.

⁹ Direct Testimony of Michael P. Holstein, filed 12/29/03 ("MPH Direct"), 3:8-12.

¹⁰ See *Midwest Independent Transmission System Operator, Inc.*, 84 FERC ¶ 61,231 (1998).

¹¹ Direct Testimony of James P. Torgerson, filed 12/29/03 ("JPT Direct"), 6:12-13.

The control over LGE transmission facilities that has been transferred to the Midwest ISO is variously described by LGE witnesses as “functional control,”¹² “the limited right to operate certain utility assets,”¹³ “only that level of operational control necessary to allow MISO to perform its functions,”¹⁴ and as not involving ownership, property rights, or “physical control.”¹⁵ Transmission owners do retain ownership of their transmission facilities and physically operate those facilities — subject to the Midwest ISO’s direction. The Midwest ISO thus has been given functional control over the LGE transmission system for certain purposes and subject to certain limitations.

In his direct testimony, Michael S. Beer states that LGE did not seek prior Commission approval of the transfer of control to the Midwest ISO and explains that KRS 278.020(4) did not apply to the transfer because (a) the statute addresses only the transfer of control over a utility rather than a portion of its assets and (b) the transfer was not of ownership, physical control, or absolute operational control of an LGE asset.¹⁶ The Midwest ISO is not aware of any factual or legal basis for disputing this position that KRS 278.020(4) was inapplicable. Furthermore, the Commission’s KRS 278.020(4) approval was sought for LGE’s acquisition by Powergen plc and then E.ON AG.¹⁷ Not only was the planned transfer to the Midwest ISO of functional control over

¹² Direct Testimony of Mathew J. Morey, filed 9/22/03 (“MJM Direct”), 7:7 and Exhibit MJM-1 at 4 (§1.3.2); *see also* LGE Response to MISO Request 18 Attchmt. p. 4 (noting a “cost” of joining the Midwest ISO to be that “LGE/KU loses control over transmission assets of 100KV and above”).

¹³ MSB Direct 12:6-7 (emphasis omitted); *see also id.* at 12:11 (referring to “the right to share in the operation of [the] assets”).

¹⁴ MSB Direct 13:14-15; *see also* MISO Supp. Request 4 Attchmt. p.17 (“MISO directs the operational control of only those facilities that operate at 100 kV or higher”).

¹⁵ MSB Direct 12:25-13:2,14:5.

¹⁶ MSB Direct 11:19-13:1.

¹⁷ Respectively, Case No. 2000-095, Joint Application of Powergen plc, LG&E Energy Corp., Louisville Gas and Electric Company and Kentucky Utilities Company for Approval of Merger,

certain transmission facilities known to the Commission in those proceedings, the Commission required a commitment to membership as an express condition to its approval of the transfer of ownership/control of LGE.¹⁸ To the extent that KRS 278.020(4) approval was needed for the transfer, it appears that such approval was actually granted by the Commission.

B. Transfer from the Midwest ISO is not consistent with the public interest.

LGE proposes to withdraw from the Midwest ISO and thereby transfer the functional control over the transmission system now exercised by the Midwest ISO. For both LG&E and KU, the assets involved are owned by the respective utility, have an original book value of greater than \$1 million, and will continue to be used to provide the same or similar service to the respective utilities' customers.¹⁹ Although LGE contends that it would exercise the same physical control over its integrated transmission system,²⁰ it does not dispute that withdrawing from the Midwest ISO would cause some change in control, or the right to control that system.²¹ On its face, therefore, what LGE proposes requires prior approval of the Commission:

No person shall acquire or transfer ownership of or control, or the right to control, any assets that are owned by a utility as defined under KRS 278.010(3)(a) without prior approval of the commission, if the assets have

and Case No. 2001-104, Joint Application for the Transfer of Louisville Gas and Electric Company and Kentucky Utilities Company in Accordance with E.ON AG's Planned Acquisition of Powergen plc. In each case, the joint applicants sought both KRS 278.020(4) and 278.020(5) approval of the proposed merger/acquisition.

¹⁸ Case No. 2000-095, 5/15/00 Order at 21-22 and Appendix A (Other Commitments and Assurances) #15; Case No. 2001-104, 8/6/01 Order, Appendix A (Other Commitments and Assurances) #49; *see also* MSB Direct 5:32-6:9.

¹⁹ LGE Response to MISO Requests 3, 4.

²⁰ LGE Response to MISO Requests 3, 4.

²¹ *See* LGE Response to MISO Request 26b (noting that "transfer of control of the Companies' assets" to a different RTO might require KRS 278.218 approval "which determination would involve an examination of the level of control transferred").

an original book value of one million dollars (\$1,000,000) or more and ... will continue to be used to provide the same or similar service to the utility or its customers.

KRS 278.218(1) (emphases added). *See also* Case No. 2002-00475, 7/17/03 Order at 1-2 (holding that KRS 278.218 applied to Kentucky Power's proposed transfer to PJM of functional control of certain transmission facilities).

The standard for approval of a transfer in ownership or control of utility assets is that the change "is for a proper purpose and is consistent with the public interest."

KRS 278.218(2). The Commission interpreted the "public interest" prong of that standard in its Order dated August 25, 2003, granting rehearing in the Kentucky Power-PJM proceeding, Case No. 2002-00475. The burden is on the party seeking approval of the transfer:

The Commission finds that any party seeking approval of a transfer of control must show that the proposed transfer will not adversely affect the existing level of utility service or rates or that any potential adverse effects can be avoided through the Commission's imposition of reasonable conditions on the acquiring party. The acquiring party should also demonstrate that the proposed transfer is likely to benefit the public through improved service quality, and service reliability, the availability of additional services, lower rates, or a reduction in utility expenses to provide present services. Such benefits, however, need not be immediate or readily quantifiable.

8/25/03 Order at 4 (emphasis in original). "This standard establishes a two-step process: first, there must be a showing of no adverse effect on service or rates; and, second, there must be a demonstration that there will be some benefits." *Id.* The Commission explained that Kentucky Power had not met the first step because it did not quantify benefits at least equal to the acknowledged costs; therefore, there had been no need to consider possibly unquantifiable benefits from Kentucky Power's joining PJM. *Id.*

Applying the Commission interpretation of the KRS 278.218 standard to LGE's request for an order directing it to withdrawing its membership in the Midwest ISO exposes the deficiencies in the proposal. LGE has failed to quantify benefits of withdrawal that are at least equal to the associated costs. Those costs include not only the monies that would be due upon withdrawal, but also the loss of quantifiable benefits of membership relative to functioning as a stand-alone entity. The record evidence demonstrates that Midwest ISO membership has benefits that far outweigh the costs — in the past, today, and for the near future. Furthermore, even if LGE had shown benefits from the proposed change in control that offset the costs, it still would not have met the KRS 278.218 “public interest” standard because the proposed change would adversely affect the existing level of reliability of service.

II. The Benefits From LGE Membership in the Midwest ISO Exceed the Associated Costs.

The evidence before the Commission demonstrates that Kentucky consumers should realize net benefits from the continued participation of LGEKU in the Midwest ISO.

A. There are substantial quantifiable benefits of Midwest ISO membership.

The quantifiable benefits associated with continued Midwest ISO membership include: (a) enhanced reliability; (b) operational benefits, which include transmission revenue, efficient congestion management, efficient congestion management and optimal generation dispatch; (c) maximization of merger savings; (d) avoided labor and systems costs, and (e) an avoided withdrawal fee.

1. Enhanced Reliability.

Midwest ISO witness Roger C. Harszy explained that reliability on the Kentucky portion of the grid has been and will continue to be enhanced by LGE's continued participation in the Midwest ISO, to the benefit of LGE's retail customers.²² He stated that the Midwest ISO's role includes the responsibility to provide short-term reliability for its members and to serve as the reliability coordinator pursuant to NERC standards of conduct.²³ He also explained that the Midwest ISO uses several communications and visual systems to fulfill its obligations as reliability coordinator (not all of which are used by other reliability coordinators), including regional communications, hotlines, morning reliability calls within the region and with surrounding Reliability Coordinators, displays of real-time conditions of the transmission system, an updated Flowgate Monitoring Tool, and a State Estimator to calculate the condition of the entire system.²⁴

Mr. Harszy testified that the Midwest ISO has a larger picture of system conditions than a stand-alone LGE would have, and that the critical advantages of RTO membership are the ability to share information to coordinate outage schedules on a region-wide basis²⁵ and to coordinate regional planning by integrating LGE planning needs into a regional plan.²⁶ The Midwest ISO planning process can benefit Kentucky by offering reasonable solutions to problems such as efficient generation redispatch and preventing adverse flows on unusually constrained flowgates.²⁷

²² Direct Testimony of Roger C. Harszy, filed 12/29/03 ("RCH Direct"), 2:1-2.

²³ *Id.* at 2:21-24; 3:1-5.

²⁴ *Id.* at 3-6.

²⁵ *Id.* at 10.

²⁶ *Id.* at 11:13-22.

²⁷ *Id.* at 12.

Mr. Harszy also affirmed that, even prior to the August 14 Blackout, it became clear to the Midwest ISO that the expectations of the transmission owners and of the entire industry for the responsibility of the reliability coordinators had been raised, and that, to that degree, the Midwest ISO focused intensely on getting in place all of its reliability tools already under development.²⁸ He also indicated that, despite the August 14 Blackout, the Midwest ISO passed the NERC audit even without those systems.²⁹

Mr. Harszy noted that if LGE were not in the Midwest ISO but had a contract for reliability coordination with the Midwest ISO, LGE's system still would not be as reliable and would not have an equal or lesser outage probability, because the Midwest ISO provides its members additional reliability benefits such as AFC coordination, outage coordination, tariff administration and other services, without which there would be a potential of greater risk to LGE's reliability.³⁰

The Midwest ISO adduced evidence that quantified the benefits of the enhanced reliability made possible by the continued participation of LGE in the Midwest ISO. That evidence came in the form of testimony by Jonathan Falk, a noted expert in loss analysis and associated economic modeling.

Mr. Falk's overall finding is that retail customers have reaped substantial reliability benefits as a result of LGE's membership in the Midwest ISO. This analysis is based upon certain conclusions. First, when LGE transferred functional control over its transmission systems to the Midwest ISO, there was a substantial rise in the number of Transmission Loading Relief ("TLR") incidents in LGE service territories, with evidence

²⁸ 2 T.E. 248:10-16.

²⁹ *Id.* at 249:10-14.

³⁰ *Id.* at 252:3-9.

indicating that this increase was due to the fact that LGE or its security coordinator was not monitoring potential contingencies which may have caused the grid to be operated in a manner which should have required additional Level 4 TLRs, and that consolidation of security control within the Midwest ISO facilitates monitoring contingencies that cross control area boundaries.³¹ Second, Mr. Falk concludes that this increase in TLRs protected LGE's system against outages because the purpose of a TLR is to keep the system from being operated in a state with heightened probabilities of outage.³² Third, Mr. Falk concludes that the benefits of increased security that the reliability improvements implemented by the Midwest ISO provide to retail customers can be quantified as the value of avoided losses, roughly at either a mean value of \$2.7 million per year up to a value-at-risk measure (*i.e.*, one percent probability of a loss) of over \$50 million.³³

LGE contended that, since there had been no outages, the probability thereof should be zero. Mr. Falk answered by stating that just because an event with low probability has not occurred does not mean that the estimate of the true probability is zero because impossibility is a very bad estimate, while small probabilities are consistent with the process.³⁴ He also responded to the proposition that TLRs have been increasing in general by stating that the best available data suggests that the Midwest ISO's improved monitoring is responsible for most of the increase.³⁵ Finally, Mr. Falk concluded that if LGE were to withdraw from the Midwest ISO and implement the

³¹ Direct Testimony of Jonathan Falk, filed 12/29/03 ("JF Direct"), 1:23-2:12.

³² *Id.* at 2:13-16.

³³ *Id.* at 2:22-23; 3:1-6.

³⁴ *Id.* at 6:1-17.

³⁵ *Id.* at 9:1-4.

Midwest ISO's heightened security measures itself, the higher level of attention to system security would include more costs not included in LGE's testimony.³⁶

In sum, Mr. Falk found that retail customers have reaped significant reliability benefits from LGE's membership in the Midwest ISO due to the increased monitoring ability and system security measures undertaken by the Midwest ISO that would present an increase in costs to LGE if it were to undertake those measures itself.

Witnesses for LGE confirmed that LG&E and KU cannot replicate the reliability services performed by the Midwest ISO. Mr. Johnson conceded that prior to joining the Midwest ISO, LGE performed analyses "more in the nature of post-incident analysis of events," because LGE had limited capabilities to forecast or anticipate an event, but that currently as members of the Midwest ISO, those analyses are done on line in real time by the Midwest ISO.³⁷ He agreed, stating "clearly there is no dispute," that information concerning the status of the control areas on the interconnected system in real time would assist in reliability functions.³⁸ Mr. Johnson also conceded that, prior to joining the Midwest ISO, LGE had to become aware of an event as it manifested itself to know the status of its own systems.³⁹

Mr. Johnson conceded on cross-exam that LGE's state estimator solves for contingencies on a "limited number of flowgates,"⁴⁰ but that LGE would have to increase the capabilities of the system in order to be able to rely upon it for generalized reliability under a stand-alone system⁴¹ and that the number of flowgates it monitors is

³⁶ *Id.* at 17:12-18.

³⁷ 2 T.E. 80:4-25.

³⁸ *Id.* at 81:21-25.

³⁹ *Id.* at 82:9-15.

⁴⁰ *Id.* at 84:22-24.

⁴¹ *Id.* at 85:1-4.

nowhere near the number of flowgates the Midwest ISO monitors.⁴² Mr. Johnson also stated that while the control area has a visualization tool online, it cannot see on it regionally,⁴³ and the breaker alarms do not include alarms affecting other interconnected control areas.⁴⁴

Mr. Johnson conceded on cross-exam that in order to put in place improvements and enhancements of the type that the Midwest ISO is providing, “we would spend dollars probably even in excess of what’s being projected at the MISO.”⁴⁵ He further agreed that the costs for negotiating and maintaining coordinating agreements would be roughly \$1 million.⁴⁶

Mr. Johnson stated that he expects, even if LGE withdraws from the Midwest ISO, to continue to receive outage coordination service from whichever service provider they choose, including morning reliability calls from the Midwest ISO.⁴⁷ He further agreed that if LGE used the Midwest ISO as its security coordinator, he was aware of the functions the Midwest ISO considers necessary to provide an adequate security coordination function, and that LGE would have to pay for whatever services LGE contracted with the Midwest ISO to provide.⁴⁸ Mr. Johnson, however, did not have any information about the cost advantages of choosing one reliability coordinator over another (*e.g.*, MISO vs. SPP vs. TVA vs. PJM).⁴⁹ Finally, Mr. Johnson conceded that “most transmission people would argue that seams degrades the reliability of the

⁴² *Id.* at 85:9-12.

⁴³ *Id.* at 85:19-20.

⁴⁴ *Id.* at 86:1-3.

⁴⁵ *Id.* at 87:2-4.

⁴⁶ *Id.* at 88:14-25.

⁴⁷ *Id.* at 89:11-90:4.

⁴⁸ *Id.* at 91-93.

⁴⁹ *Id.* at 128:8-13.

system” and that if LGE were to withdraw from the Midwest ISO, that would create another seam.⁵⁰

2. Net Operational Benefits.

In his direct testimony, Dr. McNamara highlighted the benefits that will accrue to Kentucky customers through the creation of markets within the footprint of the Midwest ISO. He testified that the cumulative net benefits accruing to LGE during the study period (2005 – 2010) are estimated to be approximately \$95 million.⁵¹ He noted that the Kentucky Public Service Commission’s authority to set rates for end-use customers would not be diminished by establishing a centralized, security constrained economic dispatch process for the Midwest ISO footprint of operations.⁵² Finally, in comparison to current practices, the Midwest ISO’s future use of locational marginal pricing (“LMP”) to re-dispatch generation facilities to solve transmission constraints would create economic gains, while the application of centralized security constrained dispatch over a wider region leads to more efficient use of generation and transmission resources.⁵³

Under Dr. McNamara’s supervision, the Midwest ISO performed an analysis based on comparing the costs and benefits under the following two scenarios:

(a) Under the status quo scenario, LGE would remain a member of the Midwest ISO. In this case, the Midwest ISO would maintain a degree of functional control over the LGE transmission system and would, as of December 1, 2004, be responsible for the management of congestion through a centralized security

⁵⁰ *Id.* at 99:15-19.

⁵¹ Direct Testimony of Ronald R. McNamara, filed 12/29/03 (“RRM Direct”), 2:7-9.

⁵² *Id.* at 2:10-12.

⁵³ *Id.* at 2:6-17.

constrained dispatch process applied to real-time power flows in a non-discriminatory manner across the entire Midwest ISO footprint.⁵⁴

(b) Under the stand-alone scenario, LGE could provide notice as required by the Midwest ISO Transmission Owners Agreement, seek required regulatory approvals from the Kentucky Commission and the FERC, and, subject to whatever conditions it may attach, exercise its option to withdraw from the Midwest ISO to operate as a stand-alone provider of open access transmission service. It should be noted that under this scenario, the Midwest ISO dispatch process would treat Kentucky as a “market” to “non-market” seam and — to the extent that generation in Kentucky causes congestion in the Midwest ISO — would use physical re-dispatch procedures that may lead to economically suboptimal outcomes for Kentucky.⁵⁵

It should be noted that the fact that LGE has access to inexpensive resources is taken into consideration in the modeling of the economic benefits and costs of continued participation in the Midwest ISO. Because the Commission sets retail rates on a cost of service basis, the benefit/cost analysis is based on the continuation of cost of service regulation and reflects the obligation for LGE to use their lowest cost generation to serve native load. While the companies’ operating costs affect the results, whether LGE was a low cost or a high cost system does not change the approach for conducting such an analysis.⁵⁶

The ongoing net benefits largely consist of the following six categories of benefits (including cost savings or operating efficiencies) and costs:

⁵⁴ *Id.* at 2:21-27.

⁵⁵ *Id.* at 2:27-3:9.

⁵⁶ *Id.* at 3:17-25.

(1) By continuing its membership in the Midwest ISO, LGE will receive transmission revenues from Schedules 1, 7, 8 and 14 of the Midwest ISO OATT. These revenues are expected to be approximately \$21.8 million. While a number of factors may influence this value, the analysis assumes a continuation of the revenues received in the past 12 months.⁵⁷

(2) As a stand-alone entity, LGE would receive from Schedules 1, 7, and 8 of its own tariff approximately \$9.1 million annually. (This analysis is based on the most recent available sales information and reflects the impacts of LGE as a stand-alone entity being surrounded by larger interconnected markets.)⁵⁸

(3) By retaining its membership in the Midwest ISO, LGE would be subject to approximately \$13.4 million in average annual Midwest ISO administrative fees (*i.e.*, Schedule 10, 16, and 17 fees) during the study period.⁵⁹

(4) One result of implementing centralized security constrained economic dispatch across the Midwest ISO footprint will be the creation of a sizeable wholesale electricity spot market. In addition to establishing transparent spot prices, this market is anticipated to allow LGE to increase the volume of its off-system power sales. As compared to the stand-alone case, it is anticipated that LGE will realize approximately \$8.3 million in additional annual benefits from being part of a large regional wholesale electricity market.⁶⁰

(5) Relative to the stand-alone case, centralized dispatch based on locational marginal prices across the Midwest ISO footprint will reduce the costs

⁵⁷ *Id.* at 4:24-5:3.

⁵⁸ *Id.* at 5:4-7.

⁵⁹ *Id.* at 5:8-10.

⁶⁰ *Id.* at 5:11-17.

associated with managing transmission constraints. It is anticipated that these efficiencies will yield at least \$3.6 million in annual benefits to LGE.⁶¹

(6) The Midwest ISO's analysis anticipates that LGE will receive approximately \$2 million annually in revenues from the sale of residual financial transmission rights. This is the same value assumed by LGE in its analysis.⁶²

In sum, while the results of any benefit-cost analysis are best viewed as indicative rather than precise estimates, LGE will be economically better off on an annual basis by retaining its membership in the Midwest ISO. Significantly, this conclusion does not depend upon a number of less quantifiable but important longer term benefits, such as the likely improvement in investment decisions or any benefits resulting from increased or improved demand-side involvement.⁶³

3. Maximization of Merger Savings.

The merger-related savings that LGE's retail customers have received, or will receive, are significant. Mr. Torgerson's testimony indicates that these savings amount to approximately \$340 million.⁶⁴ They include: (i) an estimated \$235.9 million in net non-fuel savings during the first five years following the merger; (ii) joint dispatch savings of approximately \$36 million during the first five years of the merger; (iii) billing credits exceeding \$160 million through June 30, 2008, as a result of future non-fuel savings.⁶⁵ But for the existence of the Midwest ISO, it is likely that regulatory authorities would have imposed market power mitigation measures that would have

⁶¹ *Id.* at 5:18-21

⁶² *Id.* at 6:1-3.

⁶³ *Id.* at 6:5-10.

⁶⁴ *Id.* at 11:20-22.

⁶⁵ *Id.* at 9:26-10:5.

significantly eroded these savings. Further, LGE's retail customers may receive additional benefits as a result of non-fuel merger savings realized after June 2008.⁶⁶

To date, LGE retail customers have realized substantial merger benefits net of costs associated with the companies' participation in the Midwest ISO. As explained by Mr. Holstein, without LGE's commitment to participate in an RTO, there would have either been no approval of the companies' proposed merger from the FERC (which in turn would have denied the companies' retail customers the benefits derived from the merger) or the FERC would have imposed market power mitigation remedies that would have been more costly than participation in the Midwest ISO.⁶⁷

The merger-related benefits include approximately \$140 million in billing credits and lump sum payments, through the end of 2003. This figure included approximately \$109 million in merger surcredits to be paid to LGE's retail customers through June 2003; almost \$18 million in additional merger surcredits through the end of 2003; and lump sum payments to certain customers totaling slightly in excess of \$12 million in lieu of additional merger surcredits.⁶⁸ Additional benefits as a result of the merger include joint dispatch and fuel savings of \$36 million during the first five years after the merger, passed on to the companies' customers through the operation of their fuel adjustment clauses.⁶⁹

4. Avoided Labor and Systems Costs.

LGE's participation in the Midwest ISO has permitted those companies to avoid certain costs. As noted by Mr. Harszy, the Midwest ISO provides regional transmission

⁶⁶ *Id.* at 10:5-8.

⁶⁷ 3 T.E. 147:9-10.

⁶⁸ MPH Direct 4:5-5:6.

⁶⁹ *Id.* at 5:7-14 (citation omitted).

planning functions,⁷⁰ permitting LGE to reduce in-house planning staff; thus, LGE no longer has to employ staff to ensure system reliability associated with external events. Similarly, the Midwest ISO operates a regional OASIS and schedules transmission transactions,⁷¹ freeing the LGE control area from having to perform these functions.

While LGE has incurred costs as a result of its membership in the Midwest ISO, these are significantly less than the concomitant benefits that have been realized. As a result of no longer performing services provided by the Midwest ISO, LGE has realized cost savings of approximately \$1 million per year, as acknowledged by its witness Mr. Morey.⁷²

5. **Avoided Withdrawal Fees.**

Mr. Holstein testified that if LGE remains in the Midwest ISO, the companies' retail customers will avoid paying the withdrawal fee — another significant benefit of continued participation in the Midwest ISO.⁷³ The withdrawal fee that LGE would be required to pay, assuming a December 31, 2004, withdrawal date, would be \$38.2 million.⁷⁴ Mr. Holstein testified that, contrary to LGE's assertions, the companies could not withdraw from the Midwest ISO within 30 days of an order from the Commission and they therefore would be responsible for all financial obligations incurred and payments applicable to time periods prior to the effective date of the withdrawal.⁷⁵

⁷⁰ RCH Direct 11:13-22.

⁷¹ *Id.* at 7:1-18.

⁷² MPH Direct *Id.* at 7:1-4.

⁷³ *Id.* at 10:11-14.

⁷⁴ *Id.* at 12:17-19; *see also* Midwest ISO Response to LGE Request 44, Attachment (workpapers).

⁷⁵ *Id.* at 12:6-19.

B. Costs Associated with Midwest ISO Membership are Appropriate and Offset by Costs Avoided Through Membership.

1. Schedule 10, 16, and 17 Fees.

The Midwest ISO recovers its costs for the services it provides through Schedule 10 (ISO Cost Recovery Adder) of the Midwest ISO OATT, which contains a formula rate.⁷⁶ However, it appears that the Schedule 10 costs paid by LGE are not and have never been reflected in the companies' base retail rates.⁷⁷ Some costs beyond those in rate base have been recovered from ratepayers in the form of an Earnings Sharing Mechanism charge.⁷⁸ According to Mr. Holstein, the assumption is that the ratepayers have to date borne as much as 40% of the amount of Schedule 10 costs that have been charged to LGE based on the actual MWhs of Transmission Service for the two companies, both for network service and point-to-point service.⁷⁹

LG&E and KU will incur certain costs to participate in the Midwest ISO through 2010, including Schedule 10 charges and upon implementation of the energy markets, charges under Schedule 16 and Schedule 17. These costs notwithstanding, LGE retail customers will realize net benefits through 2010 of the companies' continued participation in the Midwest ISO totaling \$290.4 million.⁸⁰

2. Cost Controls.

An undercurrent throughout the proceeding was the assertion that the Midwest ISO lacks effective fiscal management. Mr. Holstein dispelled this misimpression. In fact, the record in this proceeding demonstrates that the Midwest ISO does, in fact, have effective checks on the expenditures of the Midwest ISO management.

⁷⁶ *Id.* at 7:9-13.

⁷⁷ *Id.* at 7:22-23.

⁷⁸ *Id.* at 7:23-8:4.

⁷⁹ *Id.* at 8:4-7.

⁸⁰ *Id.* at 14:14.

Mr. Holstein described the processes and procedures that are in place to minimize the Midwest ISO's expenditures consistent with good business practice. The capital and operating budgets of the Midwest ISO are developed by its management team, reviewed by the Finance Subcommittee of the Advisory Committee, reviewed by the full advisory committee in November and December, and reviewed by the Board of Directors of the Midwest ISO in November and December of each year.⁸¹ The ultimate decision on the budget resides with the Board, which consists of seven independent members plus the President and CEO of the Midwest ISO.⁸² In addition, the Midwest ISO is required by the FERC to file progress reports every 60 days on expenditures related to the creation of FTR services and energy market services as a means of monitoring the effectiveness of the cost control measures of the Midwest ISO.⁸³ Additionally, the members of the Midwest ISO Board of Directors are accountable to the members of the Midwest ISO.⁸⁴

In a similar vein, Mr. Torgerson emphasized that the Midwest ISO is regulated by the FERC, that the FERC is looking at the rate of budgeted expenditures by the Midwest ISO, and that the FERC has a say-so in that.⁸⁵ He added that the FERC "expect[s] the Board to take on ... the responsibility [to look at costs]."⁸⁶ Finally, Mr. Torgerson stressed that "[t]he Board has always cautioned us to make certain that we were only spending what is needed."⁸⁷ "[W]e try to make certain that we're reviewing our costs and making sure everything we do is the least cost we can and that we're

⁸¹ *Id.* at 17:13-17.

⁸² *Id.* at 17:17-19.

⁸³ *Id.* at 18:24-27.

⁸⁴ *Id.* at 19:1-8.

⁸⁵ 1 T.E. 32:18- 33:2.

⁸⁶ *Id.* at 32:4-15.

⁸⁷ *Id.* at 33:19-21.

incurring costs prudently.”⁸⁸ Mr. Torgerson also explained that the FERC has conducted a broad audit of the Midwest ISO at the beginning of 2004, “looking at [the Midwest ISO’s] costs, how they were incurred, and what kind of purchasing practices we might have, how we compensated people, and what basis we had for compensating people.”⁸⁹

Mr. Johnson affirmed that he is the primary interface between LGE and the Midwest ISO, and conceded that while LGE complains that the Midwest ISO’s costs are too high, the concern is more with the scope of the work than imprudence, and that LGE has never made a formal protest about the Midwest ISO’s budget.⁹⁰ He affirmed that the Midwest ISO senior management came to Louisville in August 2003, was receptive to LGE’s specific concerns, and offered to work with LGE, but that LGE did not ask at that time to opt out of the market or have a staged implementation.⁹¹ He further agreed that the Midwest ISO management “certainly” listens to its Advisory Committee.⁹²

3. Avoided Costs of Operational Inefficiencies.

By contrast to continued participation, LGE would incur substantial, albeit hidden, costs related to operational inefficiencies. The Companies have indicated that they will operate their transmission system “in accordance with requirements specified in applicable ECAR documents and the NERC Operating Manual.” Applicable ECAR and NERC standards, however, would require LGE to acquire the capability to meet first contingency reliability criteria — that is, to maintain reliable system operation in

⁸⁸ 4 T.E. 48:7-10.

⁸⁹ *Id.* at 44, 45:2-5.

⁹⁰ 2 T.E. 106:5-21.

⁹¹ *Id.* at 107:12-108:19.

⁹² *Id.* at 110:21-22.

the event of an outage of any transmission line, transformer, generator, or other facility within or outside their system that could change power flows on LGE facilities. To do so, LGE would have to enter into coordination agreements with other entities to obtain needed data and develop additional capabilities to estimate transmission flows occurring outside its system.⁹³

In addition, it would be very costly for LGE to duplicate the state estimation capabilities that the Midwest ISO has developed that enable the Midwest ISO to continuously track power flows on monitored facilities and estimate power flows on non-monitored facilities that may affect the available transfer capabilities of LGE transmission. LGE does not have comparable capabilities today. The lack of comparable capabilities will limit LGE's ability to fully utilize its transmission assets consistent with maintaining system reliability.⁹⁴

In order to manage congestion, LG&E and KU would have to rely on a system of rationing the use of physical rights for allocating the use of scarce transmission capacity. In fact, the companies have stated that they would use NERC TLR procedures to manage system overloads. Even with the best of capabilities, however, it is virtually impossible to fully and efficiently utilize transmission assets consistent with maintaining reliability applying such a system of physical transmission rights. Inherently, TLRs are both imprecise —they result in some available capacity being underutilized — and economically inefficient — least cost re-dispatch is not necessarily achieved.⁹⁵

⁹³ RRM Direct 10:9-17.

⁹⁴ *Id.* at 10:18-24.

⁹⁵ *Id.* at 11:14-24.

Reliance on TLRs for congestion management would result in serious disadvantages for the Companies. Such reliance leaves transmission capacity underutilized because the TLR approach relies on imprecise estimates and cannot accurately reflect system interactions. Under NERC procedures, the impact of control area-to-control area transactions and control area generators on constrained facilities is estimated using power flow distribution factors. The estimated distribution factors reflect reported control area-to-control area interchange schedules and reported transmission facility outages. However, power flows estimated using NERC procedures and data do not directly correspond to actual power flows.⁹⁶

In addition, a key feature of TLRs is that they are issued to curtail specific transmission transactions. When a transaction is curtailed, the control areas affected re-dispatch generation, curtail load, or reconfigure their systems to comply. Each of these actions takes time and occurs within constantly changing patterns of load, generation, and power flows. Because each change in dispatch, load levels, or system configuration will have power flow impacts and each of the parties to the curtailed transaction is responding individually against a backdrop of changing power flows, the simultaneous impact on the constrained flowgate of the responses to a TLR is difficult to predict with precision.⁹⁷

As a result, it would not be possible for reliability coordinators to use TLRs to maintain power flows at post-contingency limits on a sustained basis. Consistent with the responsibility of reliability coordinators to avoid operating system limit violations, this frequently means that some amount of transfer capability goes unutilized during TLR events. For example, based on an analysis of the Midwest ISO's experience during

⁹⁶ *Id.* at 12:24-13:6.

⁹⁷ *Id.* at 13:7-14.

28 TLR events in the LGE system from July through October 2003, on average, 9.31% of the (post-contingency) flowgate capacity was unused during these TLR events.⁹⁸ In fact, LGE as a stand-alone transmission operator could not do any better job than the Midwest ISO in matching power flows to operating security limits using a TLR, and in any event could not do it as cost effectively.⁹⁹

TLRs curtail transmission service without regard for its economic value, since the NERC TLR procedures were not developed to necessarily minimize the cost of re-dispatch.¹⁰⁰ In fact, the TLR procedures that LGE proposes to use as a stand-alone transmission provider do not take into consideration economic value because no bids or prices are available to the transmission operator in making TLR decisions. The economic impacts of curtailing particular transactions simply do not come into play. Thus, a short-term transaction that may be critical to lowering costs or avoiding the exercise of market power in a peak price period may be curtailed before a longer term but lower value transaction.¹⁰¹ There are also other ways in which a physical rights system of congestion management leads to the underutilization of transmission capacity. For example, Transmission Reserve Margins (“TRM”) set aside transfer capability against which transactions are not scheduled to provide a reasonable level of assurance that the interconnected transmission network will be secure and reliable. TRM accounts for the inherent uncertainty in system conditions, the effects of that uncertainty on available capacity calculations, and the need for operating flexibility to ensure reliable system operations as conditions change. TRM levels limit available

⁹⁸ *Id.* at 13:15-14:2.

⁹⁹ *Id.* at 14:6-10.

¹⁰⁰ *Id.* at 14:3-17.

¹⁰¹ *Id.* at 15:9-15.

capacity on some LGE interties even for purposes of scheduling next hour non-firm transmission service.¹⁰²

Furthermore, there are additional factors that would affect LGE's ability to effectively utilize transmission capacity or optimize use of its transmission assets if operated as a stand-alone system. These include the fact that the capacity of LGE flowgates is affected by power flows outside of LGE. For example, LGE flowgate number 2198, the Blue Lick 345 kV to 161 kV transformer as limited by the contingency for interruption of flows on the AEP Baker to Bradford 765 kV line. In this case, the power flows that can be permitted over this LGE flowgate are limited by the level to which flows would surge in the event of an outage on AEP's 765 kV Baker to Bradford transmission line. Therefore, predicting the power transfers that can be accommodated by LGE for the next day or hour depends on being able to forecast power flows on AEP's transmission line. The information needed to accurately forecast these flows is commercially sensitive for AEP.¹⁰³

Also, when security constraints require changes in generation dispatch, as a stand-alone system, LGE will tend to incur higher re-dispatch costs than it would as part of the Midwest ISO. This is because:

(1) LGE is a relatively small system and its options for redispatching generation to accommodate transmission constraints will be more limited as a stand-alone system than as part of the Midwest ISO energy markets.¹⁰⁴

(2) LGE will have to implement coordination agreements with neighboring systems to be able to observe flows in adjacent systems and avoid having

¹⁰² *Id.* at 15:16-24.

¹⁰³ *Id.* at 16:1-20.

¹⁰⁴ *Id.* at 16:26-17:1.

to bear the full economic costs of re-dispatching to accommodate power flows that loop in and out of the LGE transmission system from neighboring markets. It should be further noted that LGE's position in the grid makes it vulnerable to loop flows that could significantly increase its costs.¹⁰⁵

(3) The decisions utilities make to commit generating units to operate and ramp up or down the operations of units that are in service are to some degree suboptimal because of unavoidable errors in short-term load forecasts. When forecasting, unit commitment, and dispatch are performed for larger systems, there are portfolio effects. In a larger system, some forecasting errors cancel out, and at any point in time there is likely to be a more diverse range of generators whose output can be adjusted to accommodate an unanticipated increase or shortfall in load. The cost of re-dispatch to address forecasting error is likely to be higher for LGE as a stand-alone system.¹⁰⁶

Under the stand-alone scenario, LGE off-system sales and profits would be reduced. This would happen because LGE would be unable to optimally commit and dispatch its generating units as a result of its inability to fully utilize transmission assets using the physical approach to congestion management. Additionally, there will be opportunity costs from not being able to identify and complete in a timely manner the optimum mix of import and export transactions. This will increase the cost to serve native load and reduce LGE off-system sales and profits.¹⁰⁷

If LGE withdraws from the Midwest ISO, it would no longer be eligible for Midwest ISO network integration service under the Midwest ISO OATT for native

¹⁰⁵ *Id.* at 17:1-6.

¹⁰⁶ *Id.* at 17:7-14.

¹⁰⁷ *Id.* at 17:15-20.

bundled load. LGE would no longer constitute a rate zone under the Midwest ISO OATT. Similarly, under an OATT, power sales from LGE would have to incur a point-to-point charge for transmission service to exit the LGE control area. Under the stand-alone scenario, such point-to-point charges are essential to avoid cross-subsidizing transmission users seeking a “free ride” on transmission investments made by others. However, such point-to-point charges constitute hurdle rates to completing power purchases and sales that are well above the marginal cost of making power transfers. Significantly, one of the reasons for creating broad regional LMP transmission pricing is that traditional pricing is a significant barrier to economically efficient power purchases and sales.¹⁰⁸

On cross-examination, Mr. Johnson conceded that, under a joint operating type agreement, LGE would be willing to bear the cost of relieving constraints on the Midwest ISO system, and that those costs would be roughly similar to today’s costs.¹⁰⁹ He also agreed with FERC that regional control may reduce congestion and loop flow.¹¹⁰ Finally, Mr. Johnson admitted that, from a theoretical standpoint, it would be more efficient for one entity (as opposed to two) to consider the factors that play into calling a TLR.¹¹¹

¹⁰⁸ *Id.* at 20:16-21:9.

¹⁰⁹ 2 T.E. 95:7, 96:14.

¹¹⁰ *Id.* at 97:20-25.

¹¹¹ *Id.* at 101:18-23.

III. Participation by LGE in the Midwest ISO Does Not Intrude on the Regulatory Jurisdiction of the Commission.

LGE has suggested that its participation in the Midwest ISO could compromise the regulatory jurisdiction of the Commission.¹¹² The Midwest ISO respectfully disagrees with this construction.

As a prefatory matter, the Midwest ISO has demonstrated a genuine and consistent sensitivity to the interests of the various states within its footprint as expressed through their respective public service commissions. Indeed, the Midwest ISO was instrumental in the creation of the Organization of MISO States, Inc., and acknowledges OMS's primary responsibility for developing initial proposals to address a number of significant issues within the region. The Midwest ISO has been responsive to the concerns of individual states and has undertaken efforts to meet state objectives to the maximum extent possible. The participation of the Midwest ISO in this case is to bring before the Commission a full explanation of the benefits that RTO participation may provide to consumers in Kentucky in order that the Commission may make informed judgments in this matter.

Allegations have been made that the creation of markets in the Midwest will undermine Kentucky's control of its low-cost generation resources. The unrebutted testimony of Dr. McNamara is that no such result will occur. Under the Energy Market Tariff ("EMT") filed by the Midwest ISO, each utility is free to self-schedule its resources.¹¹³ In other words, LGE may continue to designate low-cost resources to serve native load customers in precisely the same manner as it currently does. The only difference is that LGE will not have to find a seller or incur imbalance penalties if its

¹¹² MSB Direct 17:17-20.

¹¹³ 3 T.E. 44:10, 75:1-13, 76:16-77:5.

scheduled load exceeds designated generation resources. Instead, marginal supply will automatically be provided at the real-time locational energy price.¹¹⁴ Conversely, LGE will not have to find a buyer or decrement production if its generation exceeds load.¹¹⁵ The differential will simply be deemed to have been purchased by the real-time market at a transparent competitive price. And, finally, LGE will have the opportunity to buy power if it is available at a cost that is less than the incremental cost of production. All of these features benefit consumers without intruding on the jurisdiction of the Commission to ensure low cost service to consumers.

Similarly, allegations have been made that resource adequacy requirements will divest state commissions of their traditional authority to establish reserve margins.¹¹⁶ Again, this is not the case. The resource adequacy requirement under the FERC's Standard Market Design was intended to be a market power mitigation tool. The FERC reasoned that supply shortages allowed market power to arise (as in California). With a resource adequacy requirement, supply shortages would not become acute and thus the ability of producers to exploit the market would be attenuated. The resource adequacy requirement was not intended to supplant the state's responsibility to ensure that utilities maintain a reserve margin to protect the reliability of the system.

The resource adequacy requirements set forth in Module E of the Midwest ISO's EMT, as stated in its introduction, are based upon the pre-existing reliability mechanisms of the states within the Midwest ISO region. These requirements are intended to address another form of market power mitigation concerns. Producers complained that it would be unfair for the Midwest ISO to mitigate their prices down to

¹¹⁴ *Id.* at 77:10-24.

¹¹⁵ *Id.* at 86:2-7, 88:6-14.

¹¹⁶ MSB Direct 14:20-23.

the incremental cost if there is no reserves market that compensates them for their fixed costs. Module E establishes a resource adequacy requirement, but sets that precise level of that requirement at the level dictated by the applicable state authority. Hence, the Midwest ISO's resource adequacy does not interfere with the Commission's jurisdiction over reserve margins, but rather respects such jurisdiction while vouchsafing competitive prices through the Midwest.

IV. Joining a Southern RTO Is Neither Feasible Nor Advantageous.

In its order initiating these proceedings, the Commission instructed LGE to include with its cost-benefit analysis a study regarding the feasibility of joining a "southern" RTO as an alternative to its membership in the Midwest ISO. 7/17/03 Order at 3. The Commission noted that several electric utilities to the south of Kentucky had been "working in a number of geographic sub-regions to establish RTOs" and "most of the utilities in the southern region of the country are similar to LG&E and KU to the extent that they are vertically integrated and provide bundled retail service...." *Id.* Accordingly, LGE addressed this question in its testimony and in its cost-benefit analysis, which included an analysis of the relative costs and benefits of LGE's membership in two potential "southern" organizations: SeTrans RTO ("SeTrans"), a proposed RTO of transmission owners from the southern United States, and a Kentucky statewide ISO ("Kentucky ISO").¹¹⁷ LGE ultimately concluded in this analysis that if it were required to remain a member of an RTO "the evidence supports a decision to continue as a member of MISO," since "neither the SeTrans RTO nor the

¹¹⁷ See generally Exhibit MJM-1 at 17-18 (§3.1.1); see also MJM Direct 15:12-19:17.

state ISO options appear to be viable candidates.”¹¹⁸ The Midwest ISO is not aware of any factual basis for disputing this conclusion.

As it demonstrated in its testimony, it is simply not feasible for LGE to join a “southern” RTO. First, SeTrans does not presently exist, and its main proponents halted its development in December 2003.¹¹⁹ Further, the lack of an adequate interconnection running north and south through Kentucky makes a southern or statewide RTO a less economical or feasible option. In his testimony, Matthew Morey notes that while LGE is “closely connected” with the Midwest ISO, it “does not possess any direct electrical interconnection to SeTrans.”¹²⁰ Dr. Morey also cites Kentucky’s lack of a well-integrated internal transmission system as a basis for his conclusion that a Kentucky ISO did not pose a viable option for LGE.¹²¹ “The transmission links between northern Kentucky, southern Kentucky, and eastern Kentucky are not as strong as they may need to be to enable a Kentucky ISO to operate an efficient dispatch.”¹²² Moreover, Dr. Morey goes further to state that “[i]n terms of the physics of the transmission system, it makes little sense to draw an ISO boundary at the state line.”¹²³ Therefore,

¹¹⁸ Exhibit MJM-1 at 60 (§7). On cross-examination, Dr. Morey agreed that “the options of a Kentucky ISO or of joining SeTrans are unambiguously inferior to remaining as a member of Midwest ISO” 1 T.E. 147:25-148:3.

¹¹⁹ RRM Direct 4 n.1.

¹²⁰ MJM Direct 15:23-16:2 (emphasis added).

¹²¹ See MJM 17:17-18:1-7.

¹²² *Id.* 17:21-18:2.

¹²³ *Id.* 18:4-5; see also Exhibit MJM-1, p.9 (“The principal feature of the LGE system is the weak linkage between the eastern and western portions of the system — that is, between the old KU and LG&E portions of the system. Furthermore, there is a persistent constraint in southern Indiana (the Petersburg 345/138 kV transformer). The heavy loading of this transmission element arises from local load and regional power transfers. The latter is due to the limited number of high-voltage lines from southern Indiana into Kentucky and Kentucky into Tennessee. Consequently, power transfers out of and through the region utilize the lower voltage circuits,

given the collapse of SeTrans' development and the impediments posed by Kentucky's internal transmission system, it is simply not feasible for LGE to join or create a "southern" RTO.

Even if feasible, neither option would be viable relative to LGE's continuing membership in the Midwest ISO. LGE's cost-benefit study asserts a multitude of factors weighing against joining SeTrans. Among these disadvantages are: (a) the lack of a direct interconnection between LGE and SeTrans; (b) the likelihood that a decreased number of transmission expansion projects in SeTrans would result in fewer benefits for LGE and its native load; (c) that "participation in RTOs with weak or non-existent interconnections with LGE, like a Kentucky ISO or SeTrans, [could] not be expected to improve future reliability even in theory"; and (d) the likelihood that the system operations costs imposed by SeTrans would be more expensive than such costs imposed by the Midwest ISO.¹²⁴ The greatest disadvantages and costs of joining SeTrans, however, stem from the interconnections between LGE and other potential members:¹²⁵

LGE/KU is so poorly interconnected with SeTrans that it is difficult to see how a SeTrans commitment and dispatch that includes LGE/KU could result in a significantly more efficient regional power system than one that does not include LGE/KU; and because of LGE/KU's strong interconnections with MISO, it is extremely unlikely that it would capture the efficiencies of a MISO commitment and dispatch that included LGE/KU.

Mark Johnson, Director of Transmission for LGE, confirmed this problem in his testimony before the Commission.¹²⁶ Thus, SeTrans does not offer a cost-effective alternative to LGE relative to its continuing membership in the Midwest ISO.

loading up other transformers in the area. What this means is that north-to-south transfers of power have a significant impact on power flows on the LGE system.")

¹²⁴ Exhibit MJM-1 at 17-18, 22, 40, 45-46; *see also* LGE Response to MISO Request 7.

¹²⁵ Exhibit MJM-1 at 18; *see also* LGE Response to MISO Request 7.

¹²⁶ 2 T.E. 104-05.

LGE's other alternative — to create a Kentucky ISO — fails to be cost-effective relative to membership in the Midwest ISO. In fact, "membership in a Kentucky state ISO would appear to be at least as problematic as membership in the SeTrans RTO."¹²⁷ Among the problems associated with the formation of a Kentucky ISO would be higher start-up and administrative costs associated with building such an organization from the ground up.¹²⁸ The study notes that some of these start-up costs could be avoided by building a "minimal ISO" that would not incorporate certain features such as the day-ahead market or locational pricing from FERC's Standard Market Design; however, such an approach would result in "reduced operating efficiencies."¹²⁹ Additionally, Dr. Morey notes that a Kentucky ISO's lack of a well-interconnected transmission system would necessitate a more substantial investment in infrastructure, the costs of which would "have to be recovered from a relatively small volume of energy sales and peak load."¹³⁰ Finally, he points out that a Kentucky ISO would have to clear significant regulatory hurdles, which would increase its costs, including the possibility that a Kentucky ISO would not be allowed to spread its fixed or administrative costs across a base that included through and out transmission transactions. The potential pitfalls also include the possibility that FERC would otherwise require the Kentucky ISO to join an RTO such as the Midwest ISO, for which it would be required to pay many of the same fees that it presently pays to the Midwest ISO.¹³¹ With these problems in mind, LGE concludes that a Kentucky ISO is not a viable alternative.

¹²⁷ MJM Direct 16:9-11.

¹²⁸ *Id.* at 17:12-17, 18:3-15.

¹²⁹ *Id.* at 16:17-23.

¹³⁰ *Id.* at 18:1-9.

¹³¹ *Id.* at 18:12-14, 19:1-17.

As admitted by LGE, a “southern” RTO presents neither a feasible nor advantageous alternative to membership in the Midwest ISO. The costs associated with joining SeTrans or creating a Kentucky ISO do not justify the costs that LGE would pass on to Kentucky ratepayers. Likewise, as demonstrated by LGE, Kentucky’s transmission infrastructure could not adequately support those load requirements imposed under a “southern” RTO. These factors explain LGE’s position that if the Commission denied it permission to operate on a stand-alone basis it would seek to remain a member of the Midwest ISO because, “as among the RTO options available to the Companies, MISO is the least-cost option.”¹³²

Conclusion

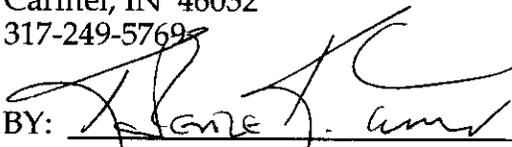
WHEREFORE, the Midwest ISO respectfully suggests that the Commission close this investigation without ordering any change in the continued membership and participation of LG&E and KU in the Midwest ISO.

Respectfully submitted,

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¹³² PWT Direct 16:8-14.

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CERTIFICATE OF FILING AND SERVICE

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